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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,437	02/10/2004	Jagrut V. Patel	030222	2918

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EXAMINER	
HUANG, WEN WU	

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
04/17/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/776,437	PATEL ET AL.	
	Examiner	Art Unit	
	WEN W. HUANG	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,30-33,35 and 37-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,30-33,35 and 37-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/23/07 has been entered.

Claims 1-15, 30-33, 35 and 37-48 are pending.

Claims 16-29, 34 and 36 are cancelled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 30-33, 37 and 41-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Olson (US. 6,727,602 B2).

Regarding **claim 30**, Olson teaches a communications device (see Olson, col. 35-38), comprising:

a processor configured to support communications, the processor being further configured to operate in a traffic stator an idle state (see Olson, col. 3 lines 31-55; application circuit, standby state or active state);

first and second batteries (see Olson, fig. 1, B1 101 and B2 104); and

a power management module (see Olson, fig. 1, power controller 108) configured to operate each of the first and second batteries (see Olson, fig. 1, B1 101 and B2 104) in a pulse current discharge mode (see Olson, col. 5, lines 29-36; alternating fashion; col. 9, lines 58-63) while supplying continuous current to the processor (see Olson, fig. 1, load 107, col. 5, lines 3-8; col. 9, lines 8-13) in response to the wireless communication device being operated in the traffic state (see Olson, col. 10, lines 35-45).

Regarding **claim 31**, Olson also teaches the wireless communications device of claim 30, wherein the power management module comprises a switch control module (see Olson, fig. 3, Vp and Vn, col. 9, lines 24-31), and a switch configured to intermittently couple the first and second batteries to the processor under control of the switch control module (see Olson, fig. 1, switches 103 and 106; col. 9, lines 58-63).

Regarding **claim 32**, Olson also teaches the wireless communications device of claim 31, wherein the switch comprises a first switch configured to intermittently couple

the first battery to the processor under control of the switch control module (see Olson, fig. 1, switch 103), and a second switch configured to intermittently couple the second battery to the processor under control of the switch control module (see Olson, fig. 1, switch 106).

Regarding **claim 33**, Olson also teaches the wireless communications device of claim 32, wherein the first and second switches, each comprises a field effect transistor (see Olson, fig. 2, col. 7, lines 40-45).

Regarding **claim 37**, Olson teaches the wireless communications device of claim 34 wherein the power control module is further configured to determine the processor state as a function of the current supplied to the processor (see Olson, col. 9, lines 8-10, measured load voltage (Vdd); col. 3, lines 38-40 and 47-52; load demand (R) of application circuit in standby state and active state; measured current (I) = measured voltage (V) / known resistance (R), Ohm's law (I=V/R), col. 9, lines 8-13),

Regarding **claim 41**, Olson teaches a communications device (see Olson, col. 35-38), comprising:

first and second batteries (see Olson, fig. 1, B1 101 and B2 104); and

a power management module (see Olson, fig. 1, power controller 108) configured to operate each of the first and second batteries (see Olson, fig. 1, B1 101 and B2 104) in a pulse current discharge mode (see Olson, col. 5, lines 29-36; alternating fashion;

col. 9, lines 58-63) while supplying continuous current to a load (see Olson, fig. 1, load 107, col. 5, lines 3-8; col. 9, lines 8-13) in response to the current required by the load exceeding a threshold (see Olson, col. 9, lines 8-10, measured load voltage (Vdd); col. 3, lines 38-40 and 47-52; load demand (R) of application circuit in standby state and active state; measured current (I) = measured voltage (V) / known resistance (R), Ohm's law (I=V/R), col. 9, lines 8-13; col. 10, lines 35-45).

Regarding **claims 42-44**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 31-33, respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 7, 9, 13, 15, 38-40, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choo (US. 6,452,362 B1) in view of Olson (US. 6,727,602 B2).

Regarding **claim 1**, Choo teaches a power source (see Choo, fig. 1), comprising:

first and second batteries (see Choo, fig. 1, 1st battery 20 and 2nd battery 30); and

a power management module (see Choo, fig. 1, battery control circuit 60) configured to operate each of the first and second batteries in parallel while supplying

continuous current to a load (see Choo, fig. 3, S145, col. 9, liens 31-35) when no voltage differential exists between the first and second batteries (see Choo, fig. 3, S134, col. 9, lines 27-31).

Choo is silent to teaching that the power management module configured to operate each of the first and second batteries in a pulse current discharge mode while supplying continuous current to a load. However, the claimed limitation is well known in the art as evidenced by Olson.

In the same field of endeavor, Olson teaches the power management module (see Olson, fig. 1, power controller 108) configured to operate each of the first and second batteries (see Olson, fig. 1, B1 101 and B2 104) in a pulse current discharge mode (see Olson, col. 5, lines 29-36; alternating fashion; col. 9, lines 58-63) while supplying continuous current to a load (see Olson, fig. 1, load 107, col. 5, lines 3-8; col. 9, lines 8-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Choo with the teaching of Olson in order avoid the problem of over-discharging in a conventional scheme of operating two batteries in parallel (see Olson, col. 1, lines 59-65).

Regarding **claim 2**, the combination of Choo and Olson also teaches the power source of claim 1 wherein the power management module comprises a switch control module (see Olson, fig. 3, Vp and Vn, col. 9, lines 24-31), and a switch configured to

intermittently couple the first and second batteries to the load under control of the switch control module (see Olson, fig. 1, switches 103 and 106; col. 9, liens 58-63).

Regarding **claim 3**, the combination of Choo and Olson teaches the power source of claim 2 wherein the switch comprises a first switch configured to intermittently couple the first battery to the load under control of the switch control module (see Olson, fig. 1, switch 103), and a second switch configured to intermittently couple the second battery to the load under control of the switch control module (see Olson, fig. 1, switch 106).

Regarding **claim 4**, the combination of Choo and Olson also teaches the power source of claim 3 wherein the first and second switches, each comprises a field effect transistor (see Olson, fig. 2, col. 7, lines 40-45).

Regarding **claim 5**, the combination of Choo and Olson further teaches the power source of claim 3 wherein the power management module is further configured to measure the current supplied to the load (see Olson, col. 9, lines 8-10, measured load voltage; col. 3, lines 38-40 and 47-52; load demand (R); measured current (I) = measured voltage (V) / known resistance (R), Ohm's law), the switch control module being further configured to control the switch as a function of the measured current (see Olson, col. 3, lines 38-55; col. col. 10, lines 30-43).

Regarding **claim 7**, the combination of Choo and Olson teaches the power source of claim 5 wherein the switch control module is further configured to control the switch such that each of the first and second batteries are intermittently coupled to the load (see col. 9, lines 58-63) if the measured current reaches a threshold for a period of time (see Olson, col. 9, liens 35-40).

Regarding **claim 9**, the combination of Choo and Olson further teaches the power source of claim 2 wherein the switch control module is further configured to control the switch as a function of voltage measured at each of the first and second batteries (see Choo, fig. 3, S120, col. 9, lines 13-15).

Regarding **claim 10**, the combination of Choo and Olson teaches the power source of claim 2 wherein the switch control module is further configured to control the switch to couple one of the first and second batteries having the highest voltage to the load (see Choo, fig. 3, S125 and S135, col. 9, lines 15-25).

Regarding **claim 40**, the combination of Choo and Olson teaches the power source of claim 1, wherein the power management module is further configured to operate each of the first and second batteries in a pulse current discharge mode while supplying continuous current to a load when a voltage differential exists between the first and second batteries (see Choo, fig. 3, S125 and S135, col. 9, lines 13-25).

Regarding **claim 11**, Choo teaches a power source (see Choo, fig. 1), comprising:

first and second batteries (see Choo, fig. 1, 1st battery 20 and 2nd battery 30); and

means for (see Choo, fig. 1, battery control circuit 60) operating each of the first and second batteries in parallel while supplying continuous current to a load (see Choo, fig. 3, S145, col. 9, liens 31-35) when no voltage differential exists between the first and second batteries (see Choo, fig. 3, S134, col. 9, lines 27-31).

Choo is silent to teaching that the means for operating each of the first and second batteries in a pulse current discharge mode while supplying continuous current to a load. However, the claimed limitation is well known in the art as evidenced by Olson.

In the same field of endeavor, Olson teaches the means for operating (see Olson, fig. 1, power controller 108) each of the first and second batteries (see Olson, fig. 1, B1 101 and B2 104) in a pulse current discharge mode (see Olson, col. 5, lines 29-36; alternating fashion; col. 9, lines 58-63) while supplying continuous current to a load (see Olson, fig. 1, load 107, col. 5, lines 3-8; col. 9, lines 8-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Choo with the teaching of Olson in order avoid the problem of over-discharging in a conventional scheme of operating two batteries in parallel (see Olson, col. 1, lines 59-65).

Regarding **claims 12, 13 and 15**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 3, 5 and 9, respectively.

Regarding **claims 38 and 39,** the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 9 and 10, respectively.

Regarding **claims 46 and 47,** the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 9 and 10, respectively.

3. Claims 35 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson as applied to claims 30 and 41 above, and further in view of Popescu-Stanesti et al. (US. 6,977,482 B2; hereinafter "Popescu-Stanesti")

Regarding **claim 35**, Olson teaches the wireless communications device of claim 30..

Olson is silent to teaching that wherein the power management module is further configured to continuously couple the first and second batteries to the processor in response to the processor being operated in the idle state. However, the claimed limitation is well known in the art as evidenced by Popescu-Stanesti.

In the same field of endeavor, Popescu-Stanesti teaches the wireless communication device wherein the power management module is further configured to continuously couple the first and second batteries to the processor (see Popescu-

Stanesti, col. 8, lines 32-42) in response to the processor being operated in the idle state (see Popescu-Stanesti, col. 5, lines 65-67; col. 11, lines 58-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Olson with the teaching of Popescu-Stanesti in order to efficiently implement plurality of batteries in parallel for portable electronic devices (see Popescu-Stanesti, col. 1, lines 15-25).

Regarding **claim 48**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claim 35.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choo and Olson as applied to claim 5 above, and further in view of Popescu-Stanesti.

Regarding **claim 6**, the combination of Choo and Olson teaches the power source of claim 5..

The combination of Choo and Olson is silent to teaching the power source wherein the switch control module is further configured to control the switch such that the first and second batteries are continuously coupled to the load if the measured current is below a threshold. However, the claimed limitation is well known in the art as evidenced by Popescu-Stanesti.

In the same field of endeavor, Popescu-Stanesti teaches the power source wherein the switch control module is further configured to control the switch such that

the first and second batteries are continuously coupled (see Popescu-Stanesti, col. 8, lines 32-42) to the load if the measured current is below a threshold (see Popescu-Stanesti, col. 5, lines 65-67; col. 11, lines 58-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Choo and Olson with the teaching of Popescu-Stanesti in order to efficiently implement plurality of batteries in parallel for portable electronic devices (see Popescu-Stanesti, col. 1, lines 15-25).

5. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olson as applied to claim 42 above, and further in view of Kitagawa (US. 6,624,613 B2).

Regarding **claim 45,** Olson teaches the power source of claim 42.

Olson is silent to teaching that wherein the switch control module is further configured to control the switch such that the first battery is coupled to the load before removing the second battery from the load. However, the claimed limitation is well known in the art as evidenced by Kitagawa.

In the same field of endeavor, Kitagawa teaches the power source wherein the switch control module is further configured to control the switch such that the first battery is coupled to the load (see Kitagawa, fig. 36, component S21) before removing the second battery from the load (see Kitagawa, fig. 36, component S23 or S28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Olson with the teaching of

Kitagawa in order to effectively use of parallel connected batteries and prevent damages of batteries (see Kitagawa, col. 1, lines 55-67)

6. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choo and Olson as applied to claims 3 and 12 above, and further in view of Kitagawa.

Regarding **claim 8,** the combination of Choo and Olson teaches the power source of claim 3.

The combination of Choo and Olson is silent to teaching that wherein the switch control module is further configured to control the switch such that the first battery is coupled to the load before removing the second battery from the load. However, the claimed limitation is well known in the art as evidenced by Kitagawa.

In the same field of endeavor, Kitagawa teaches the power source wherein the switch control module is further configured to control the switch such that the first battery is coupled to the load (see Kitagawa, fig. 36, component S21) before removing the second battery from the load (see Kitagawa, fig. 36, component S23 or S28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Choo and Olson with the teaching of Kitagawa in order to effectively use of parallel connected batteries and prevent damages of batteries (see Kitagawa, col. 1, lines 55-67)

Regarding **claim 14**, the dependent claim is interpreted and rejected for the same reasons as set forth above in claim 8.

Response to Arguments

Applicant's arguments with respect to claims 1, 11, 30 and 41 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEN W. HUANG whose telephone number is (571)272-7852. The examiner can normally be reached on 10am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/W. W. H./
Examiner, Art Unit 2618

/Matthew D. Anderson/
Supervisory Patent Examiner, Art Unit 2618